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10 UNITED STATES DISTRICT COURT
11 NORTHERN DISTRICT OF CALIFORNIA
12 SAN FRANCISCO DIVISION

13 UNITED STATES OF AMERICA,) No. CR 16-00440 WHA
14)
Plaintiff,) UNITED STATES' NOTICE OF EXPERT
15) TESTIMONY OF BRUNO CONNELLY
v.)
16) Trial: March 9, 2020
YEVGENIY ALEXANDROVICH NIKULIN,) Pretrial Conference: February 26, 2020
17) Time: 2:00 p.m.
Defendant.) Courtroom No. 12
18)
19)

20 **Introduction**

21 The United States hereby provides notice of its intent to introduce expert testimony at trial in its
22 case in chief from Bruno Connelly of LinkedIn, under FRE Rules 702, 703, and/or 705 of the Federal
23 Rules of Evidence. This disclosure is made pursuant to Rule 16(a)(1)(G) of the Federal Rules of
24 Criminal Procedure. The United States also provides notice of its intent to produce lay opinion and non-
25 expert testimony in its case-in-chief from Mr. Connelly, described below, under FRE Rule 701.
26 Although some or all of the testimony to be elicited from this witness is properly characterized as lay
27 witness testimony, and not expert opinion, the government, in an abundance of caution, provides notice
28 of the witnesses' testimony and qualifications, to the extent that the Court considers any of this

U.S. EXPERT NOTICE RE BRUNO CONNELLY
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1 testimony to be expert testimony.

2 **Witness' Qualifications**

3 Mr. Connelly is the Vice President of Engineering, Site Reliability, at LinkedIn. He has been
4 with the company since 2010. In his current role, he oversees the infrastructure that powers the LinkedIn
5 platform and supervises more than 800 engineers. Over his career at LinkedIn, he has helped to develop
6 the company's platform through significant growth. Prior to LinkedIn, Mr. Connelly served in
7 engineering roles at Yahoo! from 2003 to 2010. He held other systems administration and engineering
8 positions from 1996 to 2003. A more complete list of Mr. Connelly's qualifications is included with his
9 resume, being produced in discovery at YN014809.

10 **Testimony Regarding LinkedIn's Systems**

11 Mr. Connelly is expected to testify regarding the LinkedIn infrastructure during the time alleged
12 in the Indictment. He will explain the LinkedIn production and development environments. He will
13 testify regarding the structure and design of the user credential database that was stolen. He will also
14 testify regarding the standard encryption used to protect credentials at the time, and the process, known
15 as "salting," that was underway to enhance the encryption. Mr. Connelly will also testify regarding
16 employees' ability to access LinkedIn systems remotely through Virtual Private Network ("VPN")
17 connections. He will testify regarding the significance of employees' access levels and the types of
18 connections allowed.

19 Mr. Connelly will also testify regarding his contemporaneous investigation of the intrusion
20 alleged in the Indictment. He will testify regarding the types of logs maintained by LinkedIn's systems
21 and the significance of the data in those logs, including the VPN and SSH logs (YN005014). Mr.
22 Connelly will testify regarding the IP addresses identified from those logs as having used a LinkedIn
23 employee's account to access LinkedIn's system, including the IP address 178.140.105.239
24 (YN006744). He will also testify about other data captured in LinkedIn's logs, including user agent
25 strings and cookies, and the significance of that data. Mr. Connelly will testify regarding access to user's
26 LinkedIn accounts in addition to LinkedIn internal corporate systems (YN006743).

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1 The bases and reasons for Mr. Connelly's testimony are his experience and familiarity with
2 LinkedIn's systems. The bases and reasons for his opinions also include his investigation of the
3 compromise alleged in the Indictment and evidence gathered during that investigation.

4 The government believes that this testimony will be more "fact" testimony regarding the
5 existence, location, and meaning of certain data contained in LinkedIn's systems. The witness's
6 expertise will only be offered to the extent necessary to establish that his technical and specialized
7 knowledge allowed him to analyze and understand the relevant data from LinkedIn's systems.

8 The Government hereby reserves the right to supplement this Notice as warranted. Pursuant to
9 Rule 16(b)(1)(C), the Government requests that the defendant disclose any testimony that he intends to
10 use under Rules 702, 703, and/or 705 of the Federal Rules of Evidence as evidence at trial.

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12 DATED: December 4, 2019

Respectfully submitted,

13 DAVID L. ANDERSON
14 United States Attorney

15 /s/
MICHELLE J. KANE
16 Assistant United States Attorney
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